

REMARKS

Claims 14-15 and 54-60 are canceled.

Support for each amended claim is found at the originally filed claims and throughout the specification.

Upon entry of the amendment, Claims 1-13 and 16-53 will be active.

No new matter is believed to have been added.

Applicants thank Examiner Cordray for indicating that Claims 4, 7, 31, 38-42, 44-45 and 52 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The objection to Claim 10 has been obviated by amendment of Claim 10.

Applicants have amended Claims 6 and 7 according to the Examiner's Suggestions.

Applicants respectfully traverse the 35 U.S.C. 112, second paragraph, rejection of Claims 1, 9, 11, 14-15, 22 and 28. The rejection of Claim 1 is believed to be obviated by the amendments made to Claim 1. Claim 9 has been amended to clarify that when two papers, which have equivalent areas and thicknesses, are treated, respectfully, with the aqueous solution and the treated aqueous solution, the paper treated with the treated aqueous solution weighs less than the paper treated with the aqueous solution. Applicants respectfully submit that this amendment further limits Claim 9 by demonstrating a significant difference between the aqueous solution and the treated aqueous solution, as applied to paper. Claim 11 has been amended to clarify when step b) may be carried out. The rejection of Claims 14-15 is obviated by cancellation of Claims 14-15. Claim 22 has been amended to create sufficient antecedent basis. Claims 26 and 28 have been amended to create sufficient antecedent basis. Accordingly, Applicants respectfully request withdrawal of the rejection.

At the outset, Applicants respectfully point out that the instant invention is different from the cited art because a natural carbonate (for example calcium carbonate) when treated as described in the instant claims and applied to a paper, results in increased paper bulk (i.e., paper occupies the same volume but weighs less). The cited references employ precipitated carbonate or synthetic carbonate. In either case, using these starting materials, treating them as described in the instant claims, and applying them to paper fails to result in increased paper bulk. Accordingly, the invention differs from the cited references because different compositions produce different results.

Applicants respectfully traverse the 35 U.S.C. 103(a) rejection of Claims 1-3, 8-11, 13, 17, 19, 21-29, 33, 43, 46, and 48, as being obvious in view of Plumstead. Plumstead discloses a method of burning dolomite (magnesium carbonate and calcium carbonate) to form oxides, slaking the oxides, and treating the slaked oxides to form bicarbonates. From this process, a sludge material containing un-removed portions of calcium carbonate and magnesium carbonate and impurities is obtained, which Plumstead describes as being “highly useful... for the manufacture of paper.” Please see column 1, lines 22-40, of Plumstead. Applicants respectfully note that unlike the Applicants’ natural calcium carbonate, Plumstead’s calcium carbonate is oxidized to CaO, slaked to form Ca(OH)₂, and exposed to carbon dioxide prior to any subsequent exposure to carbon dioxide and/or acid. Further, as will be described below, starting with synthetic calcium carbonate, as opposed to natural calcium carbonate, fails to produce the results of increased paper bulk of the Applicants’ invention. Thus, Applicants submit that the different sources of calcium carbonate distinguish the claims of the instant invention from Plumstead. Withdrawal of the rejection is respectfully requested.

Applicants respectfully traverse the 35 U.S.C. 102(b) or, in the alternative, 103(a) rejection of Claims 1-3, 5-6, 8-13, 16-17, 19-25, and 28-29, as being anticipated by, or

obvious in view of, Shibasaki. Shibasaki refers to treatment of a synthetic or precipitated calcium carbonate. Applicants note that replacing natural calcium carbonate with synthetic calcium carbonate, as described in Shibasaki, results in an aqueous solution which fails to increase paper bulk when applied to paper. (Please see page 30 of the specification for the definition of paper bulk). Accordingly, because the results are different, the invention of Shibasaki cannot be the same as the invention of the Applicants' (Please see page 30 of the specification for the definition of paper bulk). In support of this statement, Applicants will separately submit an Inventor's declaration. Withdrawal of the rejection is respectfully requested.

Applicants respectfully traverse the 35 U.S.C. 103(a) rejection of Claims 20, 30, 32-36, 47, 49-51 and 53, as being obvious in view of Plumstead or Shibasaki in view of Brown. Applicants respectfully traverse the Offices' contention of obviousness in this rejection. Brown describes a process to aggregate particles, where the aggregated particles provide bulk to the paper. Please see the abstract of Brown. Applicants note that page 9 of the PCT application, to which this application claims priority, describes that the suspension of the present invention may contain a dispersant polymer as a stabilizer of the rheology of the suspension. The dispersant polymer of the present invention does not act to aggregate the mineral in order to provide the sought for bulk. Accordingly, because of the differing effect of the dispersant, and the therefore differential outcome of the solution of the present invention from a solution formed from some combination of Brown, Plumstead, or Shibasaki, Applicants submit that the instant invention is not obvious in view of the cited references. Withdrawal of the rejection is respectfully requested.

Applicants respectfully request withdrawal of the 35 U.S.C. 103(a) rejection of Claims 18 and 37 as being obvious over Plumstead or Shibasaki in view of Strauch.

Strauch, Plumstead and Shibasaki, as previously shown, require synthetic or precipitated calcium carbonate. Strauch describes precipitated commercially prepared calcium carbonate (please see column 2, lines 28-32). Applicants have previously described that natural calcium carbonate gives different results than synthetic or precipitated calcium carbonate. Accordingly, Applicants submit that the combination of the instant invention is not obvious in view of Strauch combined with Plumstead or Shabuzaki. Withdrawal of the rejection is requested.

Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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